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| 09/909,197 | 07/19/2001 | Tomoyuki Narumi | 0153-83085 | 9733 |

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| EXAMINER |
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GRAHAM, ANDREW R

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| ART UNIT | PAPER NUMBER |
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2644

DATE MAILED: 12/30/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|-------------------------------|-------------------------------|--|
| Office Action Summary | Application No. 09/909,197 | Applicant(s) NARUMI ET AL. | |
| | Examiner Andrew Graham | Art Unit 2644 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 August 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 August 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

1. The applicant's amendments to Claim 1 suffice to overcome the previous grounds of objection. Accordingly, said rejection is hereby withdrawn.

Drawings

2. The replacement drawings were received on 8/26/05. These drawings are approved and have been entered into the application. The previous objection to the drawings is accordingly hereby withdrawn.

Response to Arguments

3. Applicant's arguments with respect to claims 1-7, 9-17, and 19-22 have been considered but are moot in view of the new ground(s) of rejection. Said new grounds of rejection have been necessitated by the applicant's amendment of the claims.

On page 10, line 27 through page 11, line 4, the applicant has stated, "Since the chamfers are all on the insertion end of the battery pack 10, there is no mechanism present within Chamberlain et al. to prevent improper insertion. For example, even if the Chamberlain et al. battery pack 10 were inserted backwards, the battery pack 10 could still be inserted into its receptacle. (It wouldn't work because the contacts would on the wrong end, but there is still nothing to prevent the battery pack 10 from being inserted in this manner.)". The examiner respectfully notes that the pertinent claim language is "to prevent improper insertion". The term "improper insertion" offers a substantially broad interpretation, providing such

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a limitation with the broadest reasonable interpretation that is consistent with the specification. Within such a breadth of definition, the teachings of Chamberlain are applicable. For example, with the chamfers (74) of Chamberlain, the back end of the battery pack could be initially inserted into the recess of the device, but said insertion would be impeded prior to the battery pack housing reaching the back end of the recess R (i.e., prevented from being inserted into the space proximate the electrical terminals C) because of the narrowing of the cavity affected by tapered corners of the cavity. Allowing the square end of the battery pack would be 'improper' because, as is recognized by the applicant, the electrical contacts of this arrangement would not be properly situated with respect to each other. Thus, the chamfers or relative tapering of the power supply housing and receiving cavity impedes or "prevents" the placement or "insertion" of the power supply into the recess in non-functional or backwards or "improper" manner. The terminology of the pending claim language does not limit "improper" to be "right-side up" or "upside down" as suggested in the applicant's further remarks in lines 4-7 of page 11. Nor is the term "insertion" restricted to mean only the 'initial placement' of the power means into the recess, as is suggested by the applicant's analysis of Chamberlain. Again, it is respectfully submitted that such a limitation comprises a substantially broad definition, even in a manner that is yet consistent with the specification. Accordingly, it is respectfully

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submitted that the rejections in view of Chamberlain are proper, as has been respectively maintained below.

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

4. **Claims 1-7, 9, 11-17, and 19-22** are rejected under 35 U.S.C. 103(a) as being unpatentable over Hom et al (USPN 6331936 B1) in view of Cooney (USPN 4620110). Hereafter, "Hom et al" will be referred to as "Hom".

Hom teaches an AC adaptor that may be used both internally and externally a data processing device.

Specifically regarding **Claim 1**, Hom teaches:

A method of providing power (via 10) to an audio signal processor (76) (computer system 60 in 76 includes data and program storage, along with components for executing computer programs; at least a subset of enabled functions comprises audio signal processing; col. 4, lines 18-40)

such method comprising the steps of:

providing a receptacle (90) for a housing (18) of a voltage converting power supply (10) that supplies power to the audio signal

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processor (76) within an enclosure (82) (col. 3, lines 48-51; col. 4, lines 38-63); and

removably disposing the voltage converting power supply (10) within the enclosure (82) (col. 5, lines 14-15) , said

said voltage converting power supply (10) being adapted to supply power (DC via 28) from an alternating current power source (via 36) to the audio signal processor (76) when the voltage converting power supply (10) is disposed within the enclosure (82) (col. 3, lines 57-60; col. 4, lines 58-63) and

power from the alternating current power source (via 36) to the audio signal processor (76) when the voltage converting power supply (10) is not disposed within the enclosure (82) (col. 4, lines 63-67).

While Hom discloses that such a power adapter and receptacle structure for use with a portable computer, Hom does not clearly teach or suggest that the device with the adapter and receptacle are for a radio frequency receiver. Pertaining to the presently pending claim language, Hom does not clearly teach or suggest:

- that the audio signal processor is within a radio frequency receiver, and thus, removably disposing the voltage converting power supply within the enclosure comprises the enclosure being the enclosure of the radio frequency receiver

However, it is respectfully submitted that portable computers are not the only form of audio device that would have benefited from the space saving technique of disposing a voltage converting means inside

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the housing of the device. Such a position is substantiated by the teachings of Cooney.

Cooney discloses a power supply module and cord for internal disposal within a radio-type audio product.

Specifically regarding Claim 1, Cooney, in view of the teachings of Hom applied above, teaches or at least suggests:

A method of providing power (from conventional AC 120 volt source) to an audio signal processor (radio circuitry) within a radio frequency receiver (10) (inherent radio circuitry within radio 10 for receiving radio signal from antenna and providing audio output to speaker generally shown in figure 1; col. 3, lines 11-41; col. 4, lines 1-14)

providing a receptacle (16, in view of bay or recess 90 of Hom) for a housing of a voltage converting power supply (20, in view of 10 of Hom) that supplies power to the audio signal processor (radio circuitry) within an enclosure (11 in view of 82 of Hom) of the radio frequency receiver (10, in view of computer 68 of Hom) (col. 4, lines 1-14, again, taken in view of analogous components of Hom)

removably disposing (can be both inserted and removed) the voltage converting power supply (20 in view of 10 of Hom) within the enclosure (housing 11 in view of 82 of Hom) of the radio frequency receiver (10 in view of 76 of Hom)

To one of ordinary skill in the art at the time the invention was made, it would have been obvious that the recessed-based power supply of Hom may also be utilized for the powering a radio frequency

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receiver (instead of just a computer), as is generally shown by the power module insertable into a recess in the housing of a radio in the teachings of Cooney. The use of such a power supply of Hom for powering a radio such as in the system of Cooney would have been desirable because such a power supply and style of physical connection would have enabled the AC power adapter to be stored within the housing of the radio for travel or at any convenient time, including use, as is noted and illustrated by Hom. As is generally noted by Cooney, providing means for storage of a component in a portable radio, such as that which would include the recess and removable power supply of Hom, would have been a way of minimizing the possibility of loss of said component. It is further noted that Cooney teaches that both radios and portable computers are types of products suitable for use with a recess-housed power supply (col. 3, lines 19-23). This indication establishes the fact that radios and portable computers are art-recognized equivalent products for the purpose of being powered by a removably-housed voltage converting power supply, which further provides rationale for the above rejection.

Regarding **Claim 2**, Hom, in view of the other reference applied above, teaches or at least suggests:

disposing a receptacle (44) for a plug (42) of an external power source (AC power source, supplied via 34) within the housing (18) of the power supply (10) (col. 3, lines 49-65; Figure 1).

Regarding **Claim 3**, Hom, in view of the other reference applied above, teaches or at least suggests:

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providing a set of external conductors (electrical contacts in 28, cord 24) for coupling the power supply (10) to the audio signal processor (76) (col. 3, lines 54-58; see conductor 28 illustrated in Figure 1).

Regarding **Claim 4**, Hom, in view of the other reference applied above, teaches or at least suggests:

disposing an electrical receptacle (84) in the enclosure (82) for coupling power from the power supply (10) to the audio signal processor (76) (col. 4, lines 44-45 and 63-67).

Regarding **Claim 5**, Hom, in view of the other reference applied above, teaches or at least suggests:

disposing a plug (28) on an end of the external conductors (electrical contacts in cord 24) for engaging the electrical receptacle (84) in the enclosure (82) (col. 4, lines 63-65).

Regarding **Claim 6**, Cooney, in view of the teachings other applied reference(s), teaches or at least suggests:

defining the audio signal processor as an amplifier (radio circuitry of Cooney applies radio signal from antenna to output speaker, as is generally shown in Figure 1; the application of such an RF signal to a speaker inherently involves use of an amplifier)

Regarding **Claim 7**, Hom, in view of the other reference applied above, teaches or at least suggests:

providing a inner set of dimensions of the receptacle (90) that are complementary to an outer set of dimensions of the converting

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power supply 10 (Figure 7, adaptor 10 may be mounted within module bay 90; col. 5, lines 45-62).

Regarding **Claim 9**, Hom, in view of the other reference applied above, teaches or at least suggests:

preferentially separating noise sensitive signal processing components ("low power logic areas") from a transformer of the voltage converting power supply (10) (col. 1, lines 22-25; transformer inherent, as device 76 may also be battery powered, which outputs lower voltage than standard AC power source; transformer 48 can be seen in power supply 20 of Cooney, Figure 4).

Regarding **Claim 11**, Hom in view of Cooney teaches or at least suggests:

An apparatus (system comprising 10, 76 and interconnection) for providing power (from AC power source) to an audio signal processor (radio circuitry, load 72 of Cooney, col. 4, lines 1-14 in view of components for executing computer programs, at least a subset of enabled functions comprises audio signal processing; col. 4, lines 18-40), such apparatus comprising:

a voltage converting power supply (10) (col. 3, lines 47-51 of Hom in view of 20 of Cooney); and

a receptacle (90 of Hom in view of 16 of Cooney) disposed within an enclosure (82 of Hom in view of 11 of Cooney) of the radio frequency receiver (10 of Cooney in view of 76 of Hom) (col. 3, lines 11-41 in view of col. 4, lines 47-53),

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said receptacle (90 of Hom in view of 16 of Cooney) being adapted to removably receive the voltage converting power supply (10 of Hom in view of 20 of Cooney) (col. 5, lines 14-15 of Hom; in view of Figure 4 of Cooney, col. 4, lines 1-19),

said voltage converting power supply (10 of Hom in view of 20 of Cooney) and receptacle (90 of Hom in view of 16 of Cooney) being adapted to supply power from an alternating current power source ("AC power source" of Hom or "conventional outlet of 120 volts of alternating current" of Cooney) to the audio signal processor (10 of Hom in view of Load 72 of Cooney) when the voltage converting power supply (10 of Hom in view of 20 of Cooney) is disposed within the enclosure (82) (col. 4, lines 58-63 of Hom) and

to supply power from the alternating current power source ("AC power source" of Hom in view of AC source of Cooney) to the audio signal processor (76 of Hom in view of 72 of Cooney) when the voltage converting power supply (10) is not disposed within the enclosure (82) (used externally, col. 4, lines 63-67).

Regarding **Claim 12**, please refer to the grounds of rejection applied above in the rejection of the similar limitations of Claim 2. Regarding **Claim 13**, please refer to the grounds of rejection applied above in the rejection of the similar limitations of Claim 3.

Regarding **Claim 14**, please refer to the grounds of rejection applied above in the rejection of the similar limitations of Claim 4.

Regarding **Claim 15**, please refer to the grounds of rejection applied above in the rejection of the similar limitations of Claim 5.

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Regarding **Claim 16**, please refer to the grounds of rejection applied above in the rejection of the similar limitations of Claim 6.

Regarding **Claim 17**, please refer to the grounds of rejection applied above in the rejection of the similar limitations of Claim 7.

Regarding **Claim 19**, Hom teaches:

An apparatus (system comprising 10,76 and interconnection) for providing power (from AC power source) to an audio signal processor (radio circuitry, load 72 of Cooney, col. 4, lines 1-14 in view of components for executing computer programs, at least a subset of enabled functions comprises audio signal processing; col. 4, lines 18-40), such apparatus comprising:

a voltage converting power supply (10) (col. 3, lines 47-51 of Hom in view of 20 of Cooney); and

means (90 of Hom in view of 16 of Cooney) disposed within an enclosure (82) of the radio frequency receiver (10 of Cooney in view of 76 of Hom) for removably receiving the voltage converting power supply (10 of Hom in view of 20 of Cooney) (col. 4, lines 58-63; col. 5, lines 14-15) and

that allows the voltage converting power supply (10 of Hom in view of 20 of Cooney) to supply power from an alternating current power source ("AC power source") to the audio signal processor (76 of Hom in view of load 72 of Cooney) while the voltage converting power supply (10 of Hom in view of 20 of Cooney) is disposed within the enclosure (82 of Hom in view of 11 of Cooney) (col. 4, lines 58-63 of Hom) and

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to supply power from the alternating current power source ("AC power source") to the audio signal processor (76 of Hom in view of 71 of Cooney) when the voltage converting power supply (10 of Hom in view of 20 of Cooney) is not disposed within the enclosure (82 of Hom in view of 11 of Cooney) (col. 4, lines 63-67 of Hom in view of 4, lines 10-14 of Cooney).

Regarding **Claim 20**, Hom, in view of the other reference applied above, teaches or at least suggests:

means (44) disposed within the housing (wall 46 of 18) of the voltage converting power supply (10) for receiving power from an external source (AC) (col. 3, lines 62-65).

Regarding **Claim 21**, Hom, in view of the other reference applied above, teaches or at least suggests:

means (34) coupled to the means for receiving power (44, via 40) for coupling the power supply (10) to the external power source (AC) (col. 3, lines 60-65).

Regarding **Claim 22**, Hom, in view of the other reference applied above, teaches or at least suggests:

means (84) disposed in the enclosure (82) of the audio signal processor (76 in view of 72 of Cooney) for coupling power from the power supply (10) to the audio signal processor (76 in view of 72 of Cooney) (col. 4, lines 44-45 and 63-65).

5. **Claims 8 and 18** are rejected under 35 U.S.C. 103(a) as being unpatentable over Hom in view of Cooney as applied above, and in

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further view of Chamberlain et al (USPN 5466545). Hereafter, "Chamberlain et al" will be referred to as "Chamberlain".

As detailed above, Hom teaches an AC adaptor that may be used both internally and externally a data processing device. Cooney discloses that a removable power supply may be utilized for a radio device.

Hom in view of Cooney does not clearly specify functions comprising:

- tapering the power supply and receptacle to prevent improper insertion

Chamberlain teaches a power-supplying component that is inserted into a receptacle during use and comprises a generally rectangular housing.

Specifically regarding **Claim 8**, Chamberlain teaches:

tapering (production of chamfers 74,76) the power supply (10, in view of adaptor of Hom above) and receptacle (R) to prevent improper insertion (col. 5, lines 15-40)

To one of ordinary skill in the art at the time the invention was made, it would have been obvious to at least include chamfers on the adaptor housing and a corresponding internal shape in the recess cavity of Hom in view of Cooney as is taught for the battery pack and corresponding receptacle of Chamberlain. The motivation behind such a modification would have been that such chamfers and receptacle shape would have permitted proper alignment of the adaptor as well as restricted movement of the battery pack.

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Regarding **Claim 18**, please refer to the above rejection of the similar limitations of Claim 8.

6. **Claim 10** is rejected under 35 U.S.C. 103(a) as being unpatentable over Hom in view of Cooney as applied above, and in further view of Ozias et al (USPN 6556431 B1). Hereafter, "Ozias et al" will be referred to as "Ozias".

As detailed above, Hom teaches an AC adaptor that may be used both internally and externally a data processing device. Hom notes the use of EMI filters in prior art, as well as the need for AC adaptor isolation (col. 1, lines 2-25 and col. 2, lines 10-22). Cooney discloses that a removable power supply may be utilized for a radio device.

Hom in view of Cooney does not clearly specify functions comprising:

- shielding the noise sensitive signal processing components from the transformer.

Ozias teaches the inclusion of a heat and EMI shielded AC adaptor in a computing system.

Specifically regarding **Claim 10**, Ozias teaches:

shielding (application of 28) the noise sensitive signal processing components (such as 16, in view of components in 76 of Hom or 72 of Cooney) from the transformer (12).

To one of ordinary skill in the art at the time the invention was made, it would have been obvious to incorporate a shielding element,

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such as taught by Ozias into the AC adaptor of the system of Hom in view of Cooney. The motivation behind such a modification would have been that such a shield would have been operable to limit electromagnetic radiation and contain heat produced by the operation of the AC adaptor.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew Graham whose telephone number is 571-272-7517. The examiner can normally be reached on Monday-Friday, 8:30 AM to 5:00 PM (EST).

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vivian Chin can be reached on 571-272-7848. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

AG

Andrew Graham
Examiner
A.U. 2644

ag
December 13, 2005



HUYEN LE
PRIMARY EXAMINER